AUVSI Mission Statement

The mission of AUVSI is to promote and support the unmanned systems community through communication, education and leadership.

1972 – 2002: Advancing Unmanned Systems for 30 Years

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Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18

What's the Difference?

- *Non-profits* exist to support our respective industries. Proceeds from our meetings are re-invested into supporting our industry through additional educational programs, subsidized events, industry support groups (ISGs), scholarships, etc.

- *For-profits* exist to make money for the owners and/or benefactors.

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Unprecedented Growth for UAVs (and AUVSI)

"promote and support… through education and leadership."

- AUVSI represents more than **2500** UAV proponents, users and manufacturers (vastly more than any other single organization)
- We bring the broadest, most complete industry perspective to this challenge
- **We believe that the rules must allow *all* classes of UAVs access to the NAS or large portions of the industry will be catastrophically affected**
- We are concerned that some current efforts are only considering individual classes/types of UAVs

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Unprecedented Growth for UAVs (and AUVSI)

- Membership at all-time highs
  - 2,100+ at the end of 2001
- Successful UAV Demo at Webster Field led to record-breaking attendance at AUVSI symposium
- 1,800 attendees at Unmanned Systems 2001 was 33% greater than previous record
- Partnership with EURO UVS!

UAVs Are Way Cool

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What It's All About
---airspace:...access to--

AUVSI GOAL: unite the military & civil UAV communities with a common purpose

Here is where UAVs fly today

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Here is where we want to fly tomorrow!

All AF Airspace and Military Training Routes with Jet Routes and Victor Airways

Jet Route
Victor Airway
AF Special Use Airspace
Restricted
Other
AF Military Training Routes
Instrumented
Slow
Visual

SIMULATION SUPPORT, INC.
Comprehensive Support for Studies and Analyses

SIM SUPPORT

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Predator Force Structure
Inventory

30+ UAVs Flying all over the USA (22 Crashes)

CONTRACTOR

GCS 6 **
5011	ATP
5012	29-Aug-02
5013	29-Oct-02
5014	29-Dec-02
5015	28-Feb-03
Test 5016	

Aircraft 29
	3066	ATP
	3067	ATP
	3068	ATP
	3069	31-Mar-02
*	3070	30-Apr-02
*	3071	
*	3072	
*	3073	
*	3074	
*	3075	
*	3076	
	3077	31-Oct-02
	3078	31-Oct-02
	3079	29-Nov-02
3o Nov 02	3080	31-May-03
31-Dec-02	3081	30-Jun-03
31-Dec-02	3082	31-Aug-03
Prototype	4451	
31-Jan-03	3083	31-Oct-03
31-Jan-03	3084	31-Dec-03
28-Feb-03	3085	28-Feb-04
	3086	28-Feb-03
	3087	31-Mar-03
	3088	30-Apr-03
	3089	31-May-03
	3090	31-Jun-03
	3091	31-Jul-03
	3092	31-Aug-03
	3093	30-Sep-03

SATCOM 0

DEPOT

GCS 1
5007	Retro Apr 02

Aircraft 8
3042	Retro to Blk 5
3044	Retro to Blk 5
3057	LKTC
3061	LKTC - AWP
3062	LKTC - AWP
3063	AWP
3064	
3065	

RETC-FTD
Aircraft	3058	Mx Trainer
GCS	5003	ACC Owned

53 TEG
Aircraft	Required	Unfunded
	Required	Unfunded
	Required	Unfunded
	Required	Unfunded
SATCOM	Required	Unfunded
GCS	Required	Unfunded

KEY
ACTD	
non-B/L	
Blk 1	
Blk 5	
Blk 10	
Blk 15	
Blk 20	
Blk 30	
SATCOM	

AFMC

Baseline
GCS 2	5000	Test
	5004	Test
Aircraft 2	3011	Test
	3054	Test
SATCOM 2	7006	PPSL
	7011	PPSL

Aircraft Attrit
	Crashed	
3009	Crashed	Tuzla
1568	Crashed	Bosnia
3016	Combat Loss	Kosovo
301	Combat L	
302		Tuzla
025	Combat Loss	SWA
3026	Combat Loss	SWA
3033	Combat Loss	SWA
3032	Combat Loss	
3031	Crashed	
3022	Crashed	
Total	**22**	

Total Inventory
GCS	9
Aircraft	30
SATCOM	8

ACC

11th RS
Aircraft	1565	
	1566	
	3013	
SATCOM	7002	TS-II
GCS	5001	
Aircraft	3014	
	3015	
	318	
SATCOM		
	3039	
	3053	
SATCOM	7010	PPSL
GCS	5008	
	Required	
	Required	
	Required	
	Required	
	Required	
	Required	
SATCOM	7000	TS-II

15th RS
Aircraft	3036	
	3041	
	3052	
	7009	PPSL
	5005	
	3040	
	3055	
	3056	
	3059	
	3060	
SATCOM	7007	PPSL
GCS	5010	

57TH WG System Requirements
Aircraft	Required
	Required
	Required
	Required
SATCOM	Required
GCS	Required
Aircraft	Required
	Required
	Required
	Required
SATCOM	Required
GCS	Required

11th & 15th Totals
GCS	5
Aircraft	19
SATCOM	6

* Require 2 Group A Kits for Blk 15
** First Blk 10 - 60 Days 53RD TEG Test

As of 1 April 2002
For Official Use Only

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Shadow 200 TUAV Fielding Schedule

Fiscal Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Systems Fielded Per Year
01		1 Tng			1								2
02	1 Tng	1		1			Tng Base		1* 3 Bde 2 ID (IBCT)		1* 4ID (M)	1* Bde 25 ID (IBCT)	6
03					1 Tng Base			1 CAV	1 CAV		1 / 2 ID	1 / 2 ID	5
04		1 IBCT3 (172 SIB)		1 82 ABN	1 82 ABN	1 3 ACR	1 3 ACR	1 1 AD	1 1 ID (M)	1 3 ID (M)	1 101 AA	1 10 MNT	10
05	1 25 ID	1 11 ACR	1 1 CAV	1 82 ABN	1 2 ACR	1 2 ACR	1 4 ID (M)	1 10 MTN	1 1 AD	1 1 AD	1 101 AA	1 101 AA	12
06	1 1 ID (M)	1 1 ID (M)	1 3 ID (M)	1 3 ID (M)	1 25 ID			1 56th Bde			1 RC		7
07		1 RC		1 RC	1 RC	1 RC	1 RC		1 RC	1 RC		1 RC	8
08		1 RC		1 RC		1 RC		1 RC	1 RC		1 RC	1 RC	7

BY '04-- 22 Systems means 66 aircraft at 4 Army Posts

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* 1st System ("TAFT – PM's) will be transferred to RC in FY09 timeframe

20 February 2002

	FY01	FY02	FY03	FY04
	LRIP	LRIP	Prod I	Prod II

Vision

Harness the power of the UAV Industry <u>and its</u>
<u>associations</u> towards addressing all the issues
needed for UAVs to access the NAS
…..file and fly in a day

Goals

Agree on the need for *Consensual Views*
Agree we need to Consolidate and Orchestrate
and Speak with ONE VOICE
Agree on the Framework for a UAV Alliance
(UAV-A)

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Objectives

Define the UAV Alliance Framework

Agree on an approach and scope of work

Evaluate the EURO-UVS UCARE Program for its content

Strategy

Leverage ongoing efforts-

Keep DOD Out in Front

Does the UCARE Program Outline the Scope

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We Need a Way to Get There-Together

A Comprehensive Roadmap
That Identifies all the Questions
and provides the Recommendations
relative to the Introduction of Civil,
Commercial, and Military UAVs
into Civil Managed Airspace

Roadmaps provide the details for a Notice
for Proposed Rulemaking (NPRM)

Time on the Horizon

1st Draft
Annual Review

2nd Draft
Annual Review

1/02   2003   2004   12/04
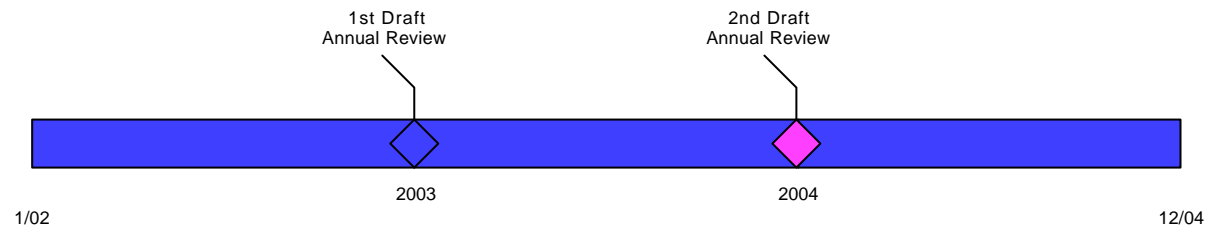
A 3yr Plan– may tend to be short sighted

40

1   10   100
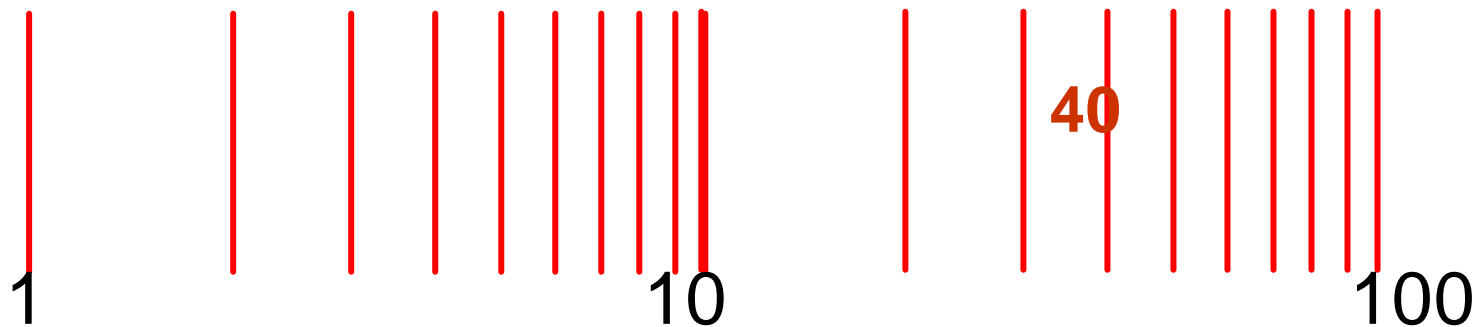
But we must also be visionary

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Too Many Ball Players Today!

GATM
& Collision Avoidance

DOD

EURO

AUVSI

NASA

AIAA

NMSU

AIA

FAA

ATM

AW   FS
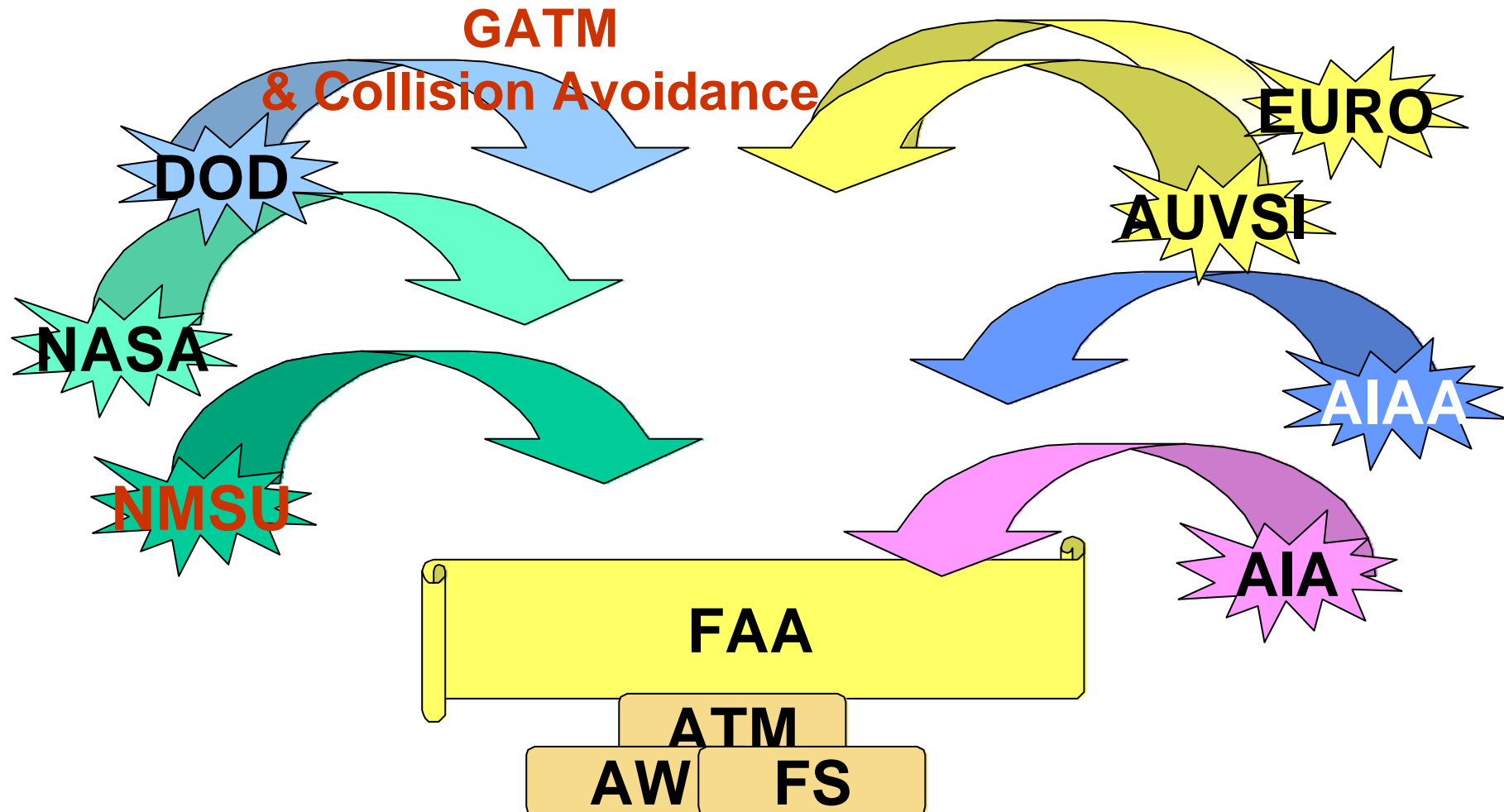
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New Mexico State University (NMSU TAAC)

- **Physical Science Laboratory**
- **Technical Analysis and Applications Center (TAAC)**
  - **Established in 2000 to accomplish the safe integration of UAVs in the National Airspace System to allow routine flights with numerous applications.**
  - **Enhance the utility of UAVs and maintain U.S. industry UAV dominance. TAAC is a division of the Physical Science Laboratory (PSL), located at New Mexico State University (NMSU).**
  - **Promoting UAV Operations and Safe Integration into the National Airspace System**
- Has a 3 hr. FAA Regulatory Short Course

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AIA Flight Operational Test Group (FOTG)

- ## AIA/Engineering Management Counsel
  - Review Rules for UAV Contractors under government contractors for flight testing UAV

- ## In between UAV Contractors, the DCMA, and the Govt/FAA

AIAA

- UAV Systems, Technologies and Operations Conference & Workshop
  - Enabling Technologies
  - Emerging Operational capabilities
- Workshop Scope
  - Key integration issues for UAVs
  - Sense/Detect and Avoid Technologies

How Much Can the Industry Take?

UAVs in the National Air Space	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DOD Meeting		██			██					██		
NASA Meetings				░░				░░				
AIA FOTG Meeting		██			██				██		██	
AIAA Meetings					░░					░░		
AUVSI Meetings		░░					░░					
NMSU Meeting										██		

Too Many Meetings

No Actual Progress

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So What's the Problem?

- Everyone has an opinion?

- Not all opinions are heard?

- Who speaks to the FAA for the UAV Industry?

- And How?

- Having FAA attend your meeting does not mean the FAA agrees,concurs, or approves.

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Consensual Views

- -that is **–'consensual, one formed by consent'**.

- **'Consent' means to agree to a proposed action, or an agreement in a course of action.**

FAA Realities

We can't speak for them but we make some assumptions:

- FAA does not have sufficient resources to respond to every industry request, every association request, every DoD Service request, or every user on a 1 on 1 situation.
- Current demand for Certificates of Authorization (COA) is manageable!!
- DoD demands on the FAA are duplicative: Global Hawk, Predator etc. FAA can handle them and only Require ATM attention.
- Other Lines of Business are laissez faire as DoD Service Self Certifies

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There is Precedent

- FAA prefers to address an industry through an 'association': NBAA, AOPA, etc.
- Air Traffic has at least recognized that FAA must address the needs of an emerging demand on the NAS.
- 10 yrs for an IFR rotary wing infrastructure
- $80M of Tilt-rotors sold with no TR infrastructure in place?
- If we start now-the need should meet the reality

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Associations Are at Work

- Organize and focus on the common goal for the industry

- Divide and target respective lines of business

- Pool resources and the leverage industry strengths

- Avoid any perception of competing

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Ideas for Consideration

FAA

- Recognize UAVs are coming to the airspace
- Must demand the UAV community speak with a single voice

UAV Industry

- We all merge our FAA UAV Meetings–
- Invitations to all mailing lists
- Attendees get their money's worth
- No organizational in-fighting
- 4-6 meetings a year–

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Consensual Views

UAV Alliance

Outline the Plan

Work Assignments

Flt Stnds

Air Worthiness

ATM

ISG

AIA

AIAA

NMSU

Product

Industry

FAA

DOD

Assign & Monitor

Collect, Collate, Print
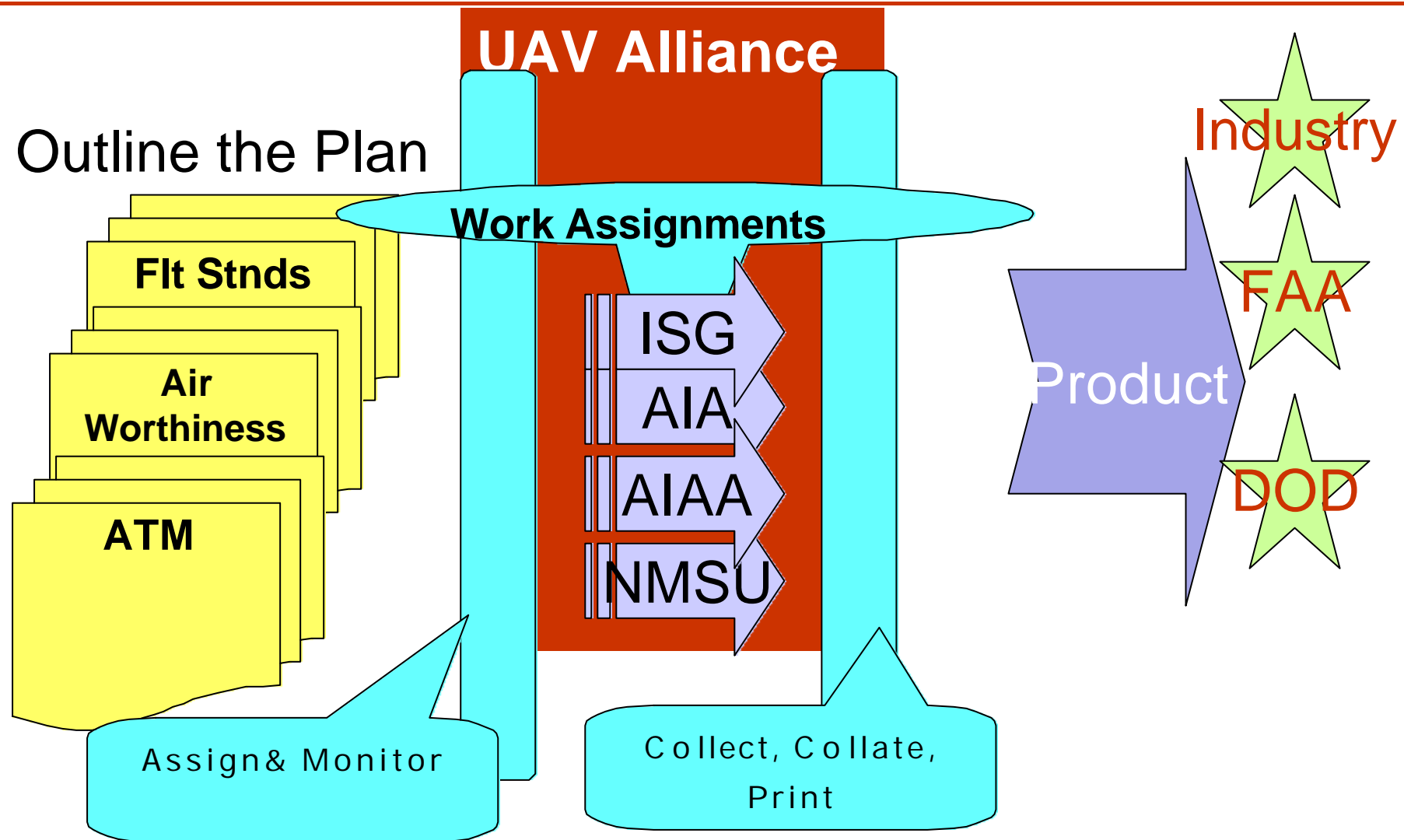
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UAV Alliance

- One representative from each 'group/player'
- Set the goals, objectives, responsibilities, and the Annual Plan
- Defines the FAA Target list for supports
- Executes the joint plan

Can Industry Augment the DOD Study Team?
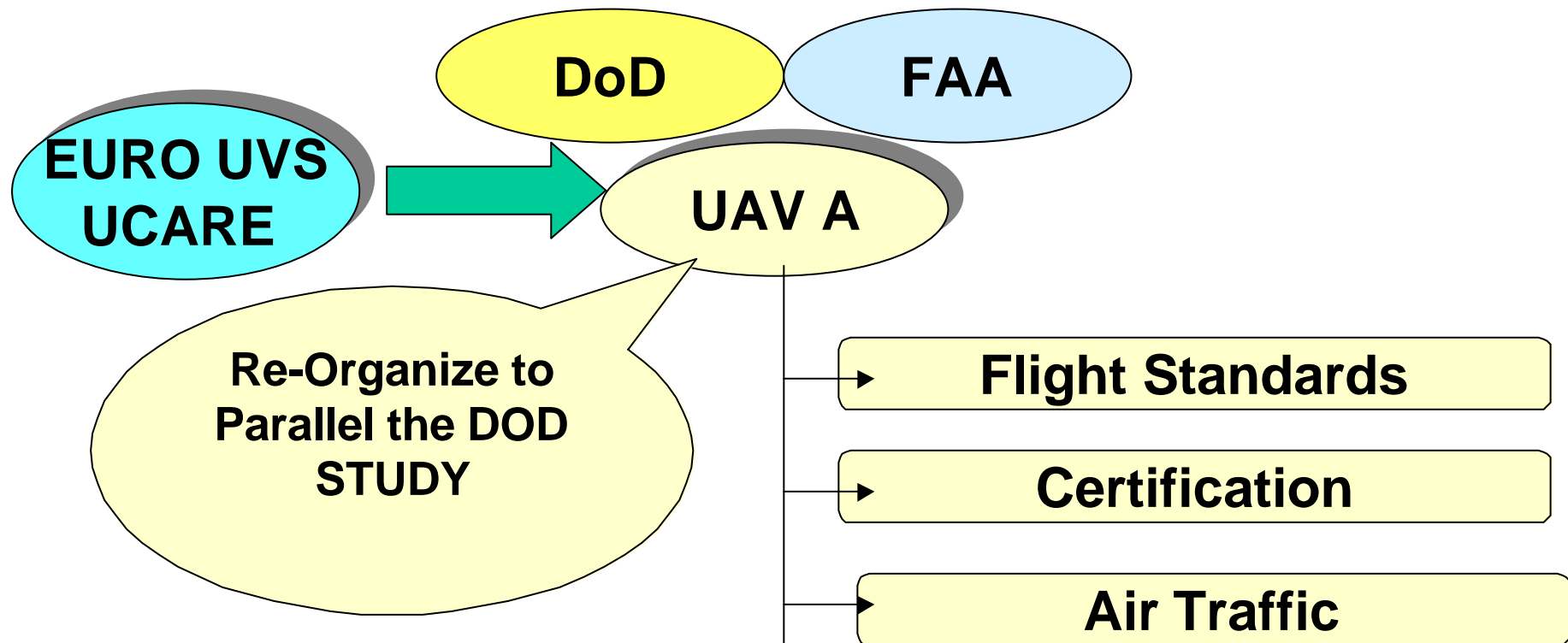
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Leverage our Strengths
(notional)

Air Traffic Services

Air Worthiness

Flight Standards

Divide the Work
Assign to our
Strengths
Collect & Collate
Print & Publish

**Policies/Requirement by
AUVSI and NASA**

**Technologies for solutions by
AIAA and NASA**

**Test and Verification
Validation by NMSU**

Define the Content

- Does the UCARE program describe the total requirements?
- Can we adopt it for USA Roadmap?

- Solicit your evaluations and opinions
- Create the Table of Contents for a Report

UAV Alliance
Directs the Work Share

- UAV Alliance makes assignments to Organizations and their respective working groups to research, create, write, and publish their respective findings.

- UAV Alliance collects, collates, and assembles industry inputs

One Voice to the FAA

- The *UAV Alliance* presents the introduction of UAV (ROAs) into the NAS and supports the development of an aviation infrastructure for the safe introduction into the NAS

- The *UAV Alliance* shall represent its Members' interests as the principal advocate and voice for integrating UAVs, both military and commercial, into the NAS before Congress, the Administration, state and local governments and the media.

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Remember the Goal

- Create, structure, and write a UAV/ROA Roadmap the identifies and answers all the issues needed for Air Traffic, Certification, and Air Worthiness

- Not to mention reliability and insurance?

CLONE UCARE?

- Create the Mirror Image of UCARE in the USA
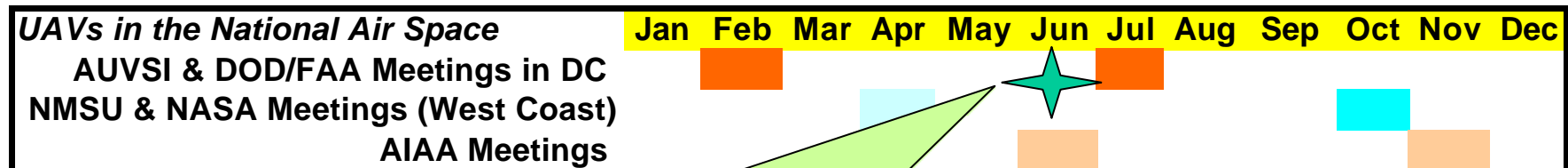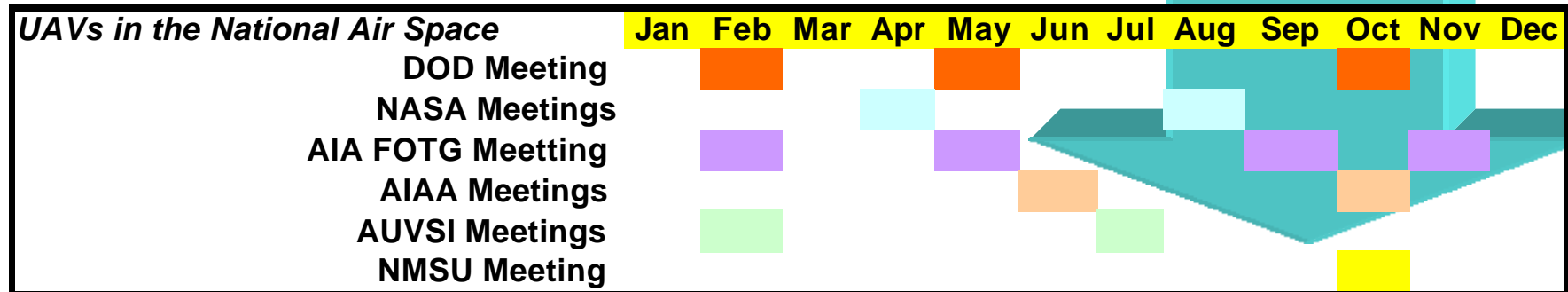
- Can we agree on the scope

Ideas for Consideration

- UAV Alliance dictates the topics by assignments
- We focus our FAA UAV Meetings–
- Invitations to all organizations
- Attendees get their money's worth
- No organizational in-fighting
- 4-6 meetings a year

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Focus on UAVs in the NAS

Better Idea?

UAVs in the National Air Space	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DOD Meeting		■			■					■		
NASA Meetings				■				■				
AIA FOTG Meetting		■			■					■		■
AIAA Meetings						■				■		
AUVSI Meetings		■					■					
NMSU Meeting										■		

UAVs in the National Air Space	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AUVSI & DOD/FAA Meetings in DC		■					■					
NMSU & NASA Meetings (West Coast)				■						■		
AIAA Meetings					■							■

All attend plenary session in prep for international session

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UAV Alliance Timing

NOW! This is the RIGHT Time to push for key decisions from the FAA to assess the certification, equipage, and access for ROAs into the NAS

- The FAA National Airspace Re-design effort is the singe greatest undertaking in reshaping the NAS!

Expectations

- ## It is unrealistic to expect the urgent need for UAVs in support of Homeland Defense to immediately penetrate the FAA's Three Lines of Business and be welcome in the National Airspace—
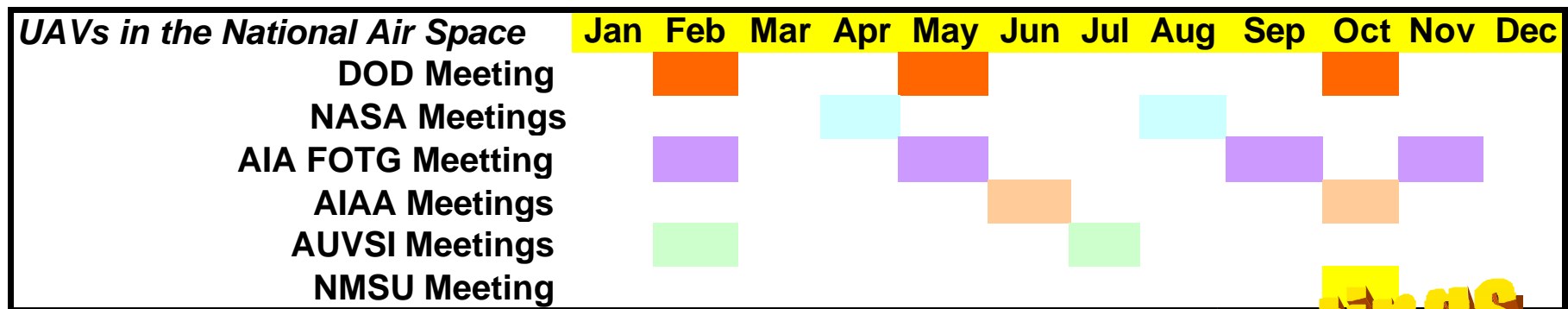 - Not this week
  - Not this year

We have the workforce

- We have the workforce and the energy
- We have the best and most experienced leaders on the team
- We can complete the UAV Roadmap in 12-18 months
- Put forth a complete UAV Roadmap and Petition for Rule Making

How Much Can the Industry Take?

UAVs in the National Air Space	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DOD Meeting	■	■			■					■		
NASA Meetings				■				■				
AIA FOTG Meeting	■				■				■		■	
AIAA Meetings				■						■		
AUVSI Meetings	■						■					
NMSU Meeting										■		

Too Many Meetings

No Actual Progress

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